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EXAMINER
HARPER, HOLLY R

ART UNIT PAPER NUMBER
2879

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,695

Applicant(s)

WAKITA, NAOHIDE

Examiner

Holly R. Harper

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-17, 19, 21-30 is/are rejected.
- 7) ☒ Claim(s) 18 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Drawings

1. The drawings are objected to because in Figure 19, the description for Element 304 should be "frame" not "flame" and the description labeled "oppsing substrate" should be "opposing substrate." A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3 and 27 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 3, it is unclear what direction is meant by the phrase "parallel to the substrate". For examination purposes, the direction of the substrate is assumed to be along any axis on the plane of the flat surface.

5. Claim 27 recites the limitation "main surface of the substrate" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-5, 15, 16, 24-26, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Jung (USPN 6,507,377 B1).

In regard to claim 1, the Jung reference discloses an image display with a substrate including a light function layer (Figure 1, Element 2) and a frame body (Figure 1, Element 12). A concave portion is on the side surface of the substrate (Figure 1, Element 10) and a convex portion is on the inner side of a side surface (Figure 1, Element 16). The convex portion is fitted to the concave portion (Figure 1).

In regard to claim 2, the Jung reference discloses that the convex portion is an elastic body (Figure 1, Element 14).

In regard to claim 3, the Jung reference discloses that the a pressing force by the elastic body acts between the convex portion and the concave portion (Figure 1). The pressing force by

Art Unit: 2879

the elastic body acts between the convex and concave portions in the direction parallel to the substrate.

In regard to claim 4, the Jung reference discloses that the elastic body is a spring (Figure 1, Element 14).

In regard to claim 5, the Jung reference discloses that the elastic body is a plate spring (Figure 1, Element 14).

In regard to claim 15, the Jung reference discloses that the substrate is fixed to the frame body by a friction force generated by the convex portion and the concave portion in the direction perpendicular to the surface of the substrate (Figure 1).

In regard to claim 16, the Jung reference discloses that the frame body is rectangular-ring shaped (Figure 1, Element 12).

In regard to claim 24, the Jung reference discloses a plurality of convex portions and a plurality of concave portions (Figure 1).

In regard to claim 25, the Jung reference discloses that the light function layer is made of liquid crystal (Column 2, Lines 25-27).

In regard to claim 26, the Jung reference discloses an image display with a substrate including a light function layer (Figure 1, Element 2) and a frame body (Figure 1, Element 12). A concave portion is on the side surface of the substrate (Figure 1, Element 10) and a convex portion is on the inner side of a side surface (Figure 1, Element 16). The convex portion is fitted to the concave portion by a friction force (Figure 1).

Art Unit: 2879

In regard to claim 30, the Jung reference discloses a display panel with a substrate including a light function layer (Figure 1, Element 2) and a frame body (Figure 1, Element 12). A concave portion is on the side surface of the substrate (Figure 1, Element 10).

8. Claims 8, 9, 13, and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by Masahiro (JP 11-199954).

In regard to claim 8, the Masahiro reference discloses an image display with a substrate including a light function layer (Figure 1, Element 4) and a frame body (Figure 1, Element 41). A convex portion is on the side surface of the substrate (Figure 1, Element 43) and a concave portion is on the inner side of a side surface of the frame (Figure 1, Element 23). The convex portion is fitted to the concave portion (Figure 1).

In regard to claim 9, the Masahiro reference discloses that the convex portion is an elastic body (English Abstract).

In regard to claim 13, the Masahiro reference discloses that the elastic body is a cushion (English Abstract).

In regard to claim 14, the Masahiro reference discloses that the cushion is made of rubber (English Abstract).

9. Claim 21 is rejected under 35 U.S.C. 102(e) as being anticipated by Kurihara et al. (USPN 6,538,709 B1).

In regard to claim 21, the Kurihara reference discloses an image display with a substrate, and a light function layer (Column 3, Lines 49-58). The substrate is placed on a base and fixed to the base by means of a screw (Figure 10).

Art Unit: 2879

10. Claim 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Kawaguchi et al. (USPN 5,592,199).

In regard to claim 27, the Kawaguchi reference discloses an image display with a substrate (Figure 6b, Element 2) and liquid crystals (Figure 6b, Element 21), a circuit board fixed at both ends to different main surfaces of the substrate (Figure 6b, Element 4). The circuit board is provided with a drive IC (Abstract).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 8-12, 17, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung (USPN 6,507,377 B1).

In regard to claim 8, the Jung reference discloses an image display with a substrate including a light function layer (Figure 1, Element 2) and a frame body (Figure 1, Element 12). A concave portion is on the side surface of the substrate (Figure 1, Element 10) and a convex portion is on the inner side of a side surface (Figure 1, Element 16). The convex portion is fitted to the concave portion (Figure 1). Jung discloses the claimed invention except for the limitation of the concave portion being on the inner side of the side surface of the frame body and the convex portion being on the side of the substrate.

Art Unit: 2879

However, applicant states that the same effects provided by the initial design are attained by this design with the parts rearranged. It has been held that rearranging of parts of an invention involves only routine skills in the art. Thus, it would have been obvious to one having ordinary skills in the art the time the invention was made to place the convex portion on a side surface of the substrate and the concave portion on the inner side of a side surface of the frame, since rearrangement of parts of an invention is considered within the skills of the art.

In regard to claim 9, the Jung reference discloses that the convex portion is an elastic body (Figure 1, Element 14).

In regard to claim 10, the Jung reference discloses that the a pressing force by the elastic body acts between the convex portion and the concave portion (Figure 1). The pressing force by the elastic body acts between the convex and concave portions in the direction parallel to the substrate.

In regard to claim 11, the Jung reference discloses that the elastic body is a spring (Figure 1, Element 14).

In regard to claim 12, the Jung reference discloses that the elastic body is a plate spring (Figure 1, Element 14).

In regard to claim 17, the Jung reference discloses an image display with a substrate including a light function layer (Figure 1, Element 2) and a base (Figure 1, Element 12). A concave portion is on the side surface of the substrate (Figure 1, Element 10) and a convex portion is on the inner side of a side surface (Figure 1, Element 16). The convex portion is fitted to the concave portion (Figure 1). Jung discloses the claimed invention except for the limitation

Art Unit: 2879

of the concave portion is on a lower surface of the substrate and the convex portion is on the upper surface of the base.

However, applicant states that the same effects provided by the initial design are attained by this design with the parts rearranged. It has been held that rearranging of parts of an invention involves only routine skills in the art. Thus, it would have been obvious to one having ordinary skills in the art the time the invention was made to place the concave portion on a lower surface of the substrate and the convex portion on the upper surface of the base, since rearrangement of parts of an invention is considered within the skills of the art.

In regard to claim 19, the Jung reference discloses an image display with a substrate including a light function layer (Figure 1, Element 2) and a base (Figure 1, Element 12). A concave portion is on the side surface of the substrate (Figure 1, Element 10) and a convex portion is on the inner side of a side surface (Figure 1, Element 16). The convex portion is fitted to the concave portion (Figure 1). Jung discloses the claimed invention except for the limitation of the convex portion is on a lower surface of the substrate and the concave portion is on the upper surface of the base.

However, applicant states that the same effects provided by the initial design are attained by this design with the parts rearranged. It has been held that rearranging of parts of an invention involves only routine skills in the art. Thus, it would have been obvious to one having ordinary skills in the art the time the invention was made to place the convex portion on a lower surface of the substrate and the concave portion on the upper surface of the base, since rearrangement of parts of an invention is considered within the skills of the art.

Art Unit: 2879

In regard to claim 22, the Jung reference discloses that the light function layer is a liquid crystal layer (Column 2, Lines 25-27),

13. Claims 1, 2, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahiro (JP 11-199954).

In regard to claim 1, the Masahiro reference discloses an image display with a substrate including a light function layer (Figure 1, Element 4) and a frame body (Figure 1, Element 41). A convex portion is on the side surface of the substrate (Figure 1, Element 43) and a concave portion is on the inner side of a side surface of the frame (Figure 1, Element 23). The convex portion is fitted to the concave portion (Figure 1). Masahiro discloses the claimed invention except for the limitation of the concave portion is on a side surface of the substrate and the convex portion is on an inner side of a side surface of the frame.

However, applicant states that the same effects provided by the initial design are attained by this design with the parts rearranged. It has been held that rearranging of parts of an invention involves only routine skills in the art. Thus, it would have been obvious to one having ordinary skills in the art the time the invention was made to place the concave portion on a side surface of the substrate and the convex portion on an inner side of a side surface of the frame, since rearrangement of parts of an invention is considered within the skills of the art.

In regard to claim 2, the Masahiro reference discloses that the convex portion is an elastic body (English Abstract).

In regard to claim 6, the Masahiro reference discloses that the elastic body is a cushion (English Abstract).

Art Unit: 2879

In regard to claim 7, the Masahiro reference discloses that the cushion is made of rubber (English Abstract).

14. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara et al. (USPN 6,538,709 B1).

All the limitations of claim 22 have been met in the rejection under Kurihara above.

In regard to claim 23, the Kurihara reference discloses a substrate made of glass (Column 3, Lines 50-55). Resin is an art recognized equivalent of glass. It would have been obvious to one of ordinary skill in the art at the time the invention was made the substrate from resin, not glass, because the two materials are art recognized equivalents.

15. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al. (USPN 5,592,199) in view of Kim (USPN 6,330,150 B1).

All the limitations of claim 27 have been met in the rejection under Kawaguchi above.

In regard to claims 28 and 29, the Kawaguchi reference discloses a circuit board fixed to a substrate (Figure 6b). The Kawaguchi reference discloses that the circuit board is mounted to the substrate (Column 18, Lines 34-40), but does not specify how. The Kim reference teaches that a hole (Figure 1, Element 20) is placed in the circuit board and a pin or screw (Figure 1, Element 19) is used to mount the circuit board to the substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a hole and screw or pin, as taught by Kim, to mount the circuit board to the substrate.

Allowable Subject Matter

16. Claims 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 18, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 18, and specifically comprising the limitation that the concave portion has a small cross-sectional area portion and a large cross-sectional area portion.

Regarding claim 20, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 20, and specifically comprising the limitation that the concave portion has a small cross-sectional area portion and a large cross-sectional area portion.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kim et al. (USPN 6,175,396 B1) discloses a LCD frame with concave and convex pieces and column-shaped convex pieces.

Lee (USPN 6,504,586 B1) discloses a LCD frame with concave and convex pieces and column-shaped pieces.

Art Unit: 2879

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (703) 305-7908. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Holly Harper
Patent Examiner
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